

C2

--As battery chargers are typically designed without regard for efficiency, the heat generated via low-efficiency chargers can present a problem. For those applications, the chargers shown in **FIGS. 5A-5B** delivers **2.5 A** with efficiency as high as **96** percent. **IC1** is a buck-mode switching regulator that controls the external power switch **Q1** including the synchronous rectifier. **IC1** includes a charge pump for thus, generating the positive gate-drive voltage, however required by **Q1**. The battery-charging current having a voltage across the **25-M** resistor (**R3**), which is amplified by the op amp and defined, as positive-voltage feedback to **IC1**. This feedback empowers the chip to maintain the charging current at **2.5 A**. **While charging, these two circuits H3-H4 can provide current to a separate load**, up to a limit, thus set by current-sense transformer **T1**, and sense resistor **R1**. **T1**, thereby improves efficiency by lowering power dissipation in **R1**. Seeing that the transformer turns ratio (**1:70**), and routes, only **1/70** of the total battery-plus-load current via **R1**, generates a feedback voltage, which enables **IC1** to limit the overall current to a level compatible therewith the external components. As shown in **FIG. 4A**, a block diagram of a **PE** model is clear, which was requested via the **PTO**, such, as to demonstrate its operability. The chargers **H3-H4** are connected to each other via the converters **V3-V4**, whereby two leads proceed from the charger **H3**, and is connected to the converter **V3**. While two leads proceed from the charger **H4**, both leads each of which, consequently, is connected with respect to the converter **V4**. Seeing that a lead proceeds from the adapter **A3**, and is connected using the charger jack **2**, a lead proceeds from the adapter **A4**, and is connected by way of the charger jack **3**.--

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

Paragraph beginning at line **38** of page **3** has been amended as follows: